

## OFFICE MEMORANDUM

TO: See distribution list below

May 1, 1953

FROM: Merrill Eisenbud, Director  
Health and Safety Division

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SUBJ: PROSPECTIVE CHANGES IN MAXIMUM PERMISSIBLE CONCENTRATIONS

SYMBOL: HS:ME:srm

At the Tripartite Conference on Radiation Doses held in Harriman, N. Y. on March 30 to April 1, the following actions were of particular significance to New York Operations.

The following maximum permissible concentrations were adopted:

Radon and Thoron	$10^{-10}$ curies per liter
Thorium	500 micrograms per cubic meter

With respect to internal dose from alpha emitters, the relative biological effectiveness of alpha with respect to gamma radiation was changed from 20 to 10. This will have the effect of increasing the permissible concentrations of all alpha emitting dusts in air by a factor of two. However, a further increase is likely (perhaps an additional factor of two) by reason of the agreement that the permissible lung dose shall be equivalent in millirem to the dose delivered to the skeleton by 0.1 micrograms of radium. 300 millirem per week has previously been used as the maximum permissible dose to lung tissue.

0.1 microgram of radium uniformly distributed throughout the skeleton produces a dose of approximately 70 millirem per week. With the new RBE of 10, the permissible dose to the lung becomes approximately 700 millirem per week instead of the previous value of 300.

The above information should be regarded as an informal summary of the actions taken by the Tripartite Conference which are of direct concern to us. These changes are not as yet official but we can expect them to be incorporated eventually by the official committees which have been established in this country for recommending permissible radiation doses.

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